

AD-A082 970

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND MS--ETC F/8 4/2
19701ST MLRS; MISSILE NUMBER 026 AND 029; ROUND NUMBER B-60 AND--ETC(U)
DEC 79

UNCLASSIFIED

ERADCOM/ASL-DR-1106

NL

1 of 1
AD-A082 970



END
DATE
FILMED
5-80
DTIC

DISCLAIMER NOTICE

**THIS DOCUMENT IS BEST QUALITY
PRACTICABLE. THE COPY FURNISHED
TO DTIC CONTAINED A SIGNIFICANT
NUMBER OF PAGES WHICH DO NOT
REPRODUCE LEGIBLY.**

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM	
1. REPORT NUMBER DR 1106	2. GOVT ACCESSION NO. 111 ERADCOM	3. REPORT'S CATALOG NUMBER ASL-DR-1106	
4. TITLE (and Subtitle) 19701BT MLRS, Missile Number 026 and 025, Round Number B-60 and B-61, 18 Jan 79.	5. TYPE OF REPORT & PERIOD COVERED		
7. AUTHOR(s) White Sands Meteorological Team	8. CONTRACT OR GRANT NUMBER(s) 16 DA Task 1F665702D127-02 17		
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 12 21		
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002	12. REPORT DATE 11 Dec 1979		
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research & Development Cmd Adelphi, MD 10783	13. NUMBER OF PAGES 21		
	15. SECURITY CLASS. (of this report) UNCLASSIFIED		
16. DISTRIBUTION STATEMENT (of this Report)			
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.			
18. SUPPLEMENTARY NOTES			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19701BT MLRS, Missile Numbers 026 and 025, Round Numbers B-60 and B-61 are presented in tabular form.			

CONTENTS

INTRODUCTION-----	1
DISCUSSION-----	1
LAUNCH AREA MAP-----	2
GENERAL AREA MAP-----	3
TABLES:	
1. Surface Observation taken at 0841 MST at LC-33-----	4
2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 0840 MST-----	5
3. Anemometer-Measured Wind speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 0840 MST-----	5
4. LC-33 Pilot-Balloon-Measured Wind Data at 0805 MST-----	6
5. LC-33 Pilot-Balloon Measured Wind Data at 0840 MST-----	7
6. Nick Site Pilot-Balloon-Measured Wind Data at 0830 MST-----	8
7. Nick Site Pilot-Balloon-Measured Wind Data at 0840 MST-----	9
8. WSD Significant Level Data at 0815 MST-----	10
9. WSD Upper Air Data at 0815 MST-----	12
10. WSD Mandatory Levels at 0815 MST-----	17

Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DDC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or special
A	23 CP

INTRODUCTION

19701BT MLRS, Missile Numbers 026 and 025,
Round Numbers B-60 and B-61, were launched from LC-33,
White Sands Missile Range (WSMR), New Mexico, at 0840:55 MST and 0840:58 MST
on 18 December 1979. The scheduled launch times were 0815 and
0816:04 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pilot observation at:

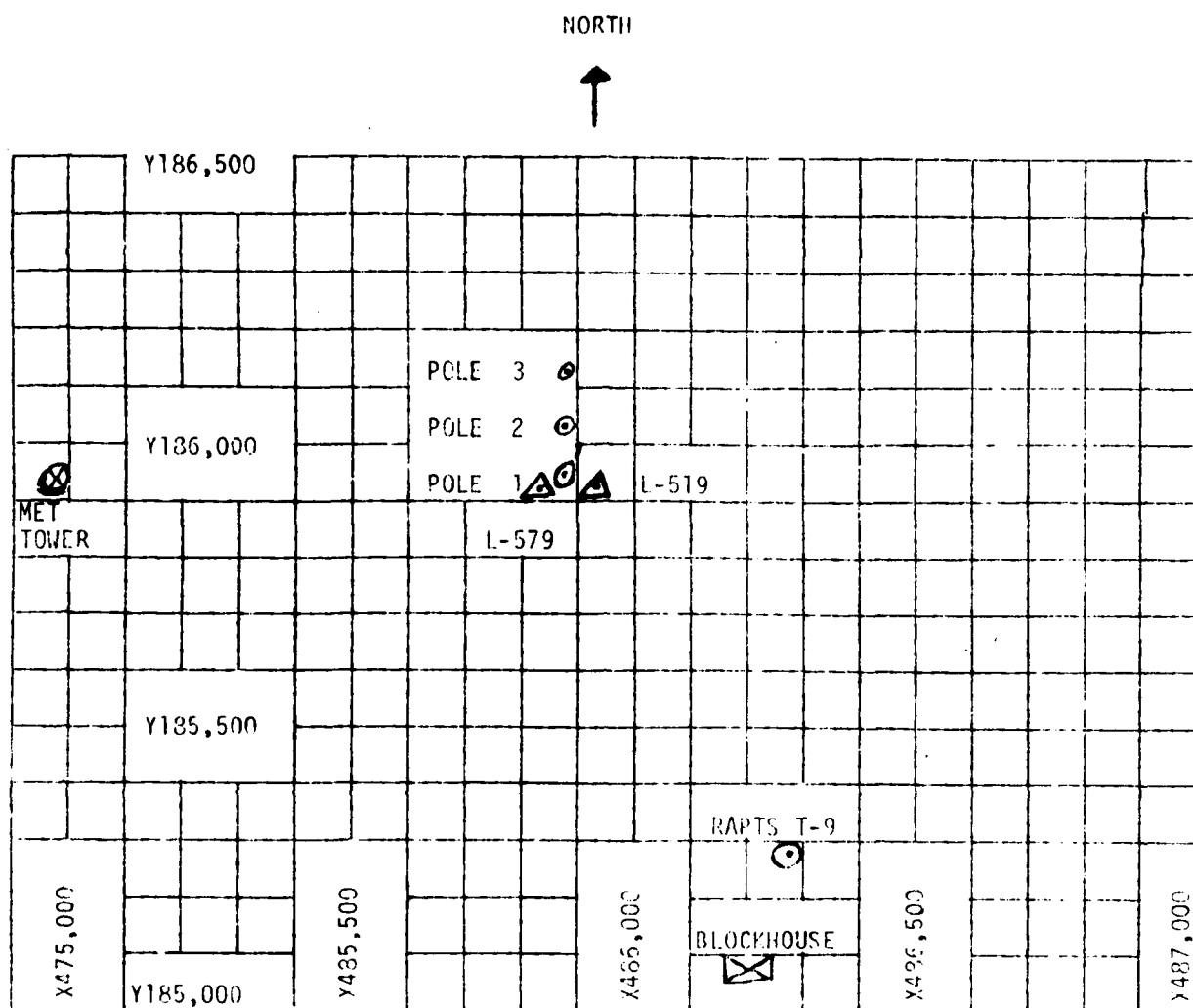
SITE AND ALTITUDE

LC-33 2Km
Nick 2Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 85,000 feet in 500-foot increments.

SITE AND TIME

WSD 0815 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft.
 - (b) Pole #2 - 53.0 ft.
 - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

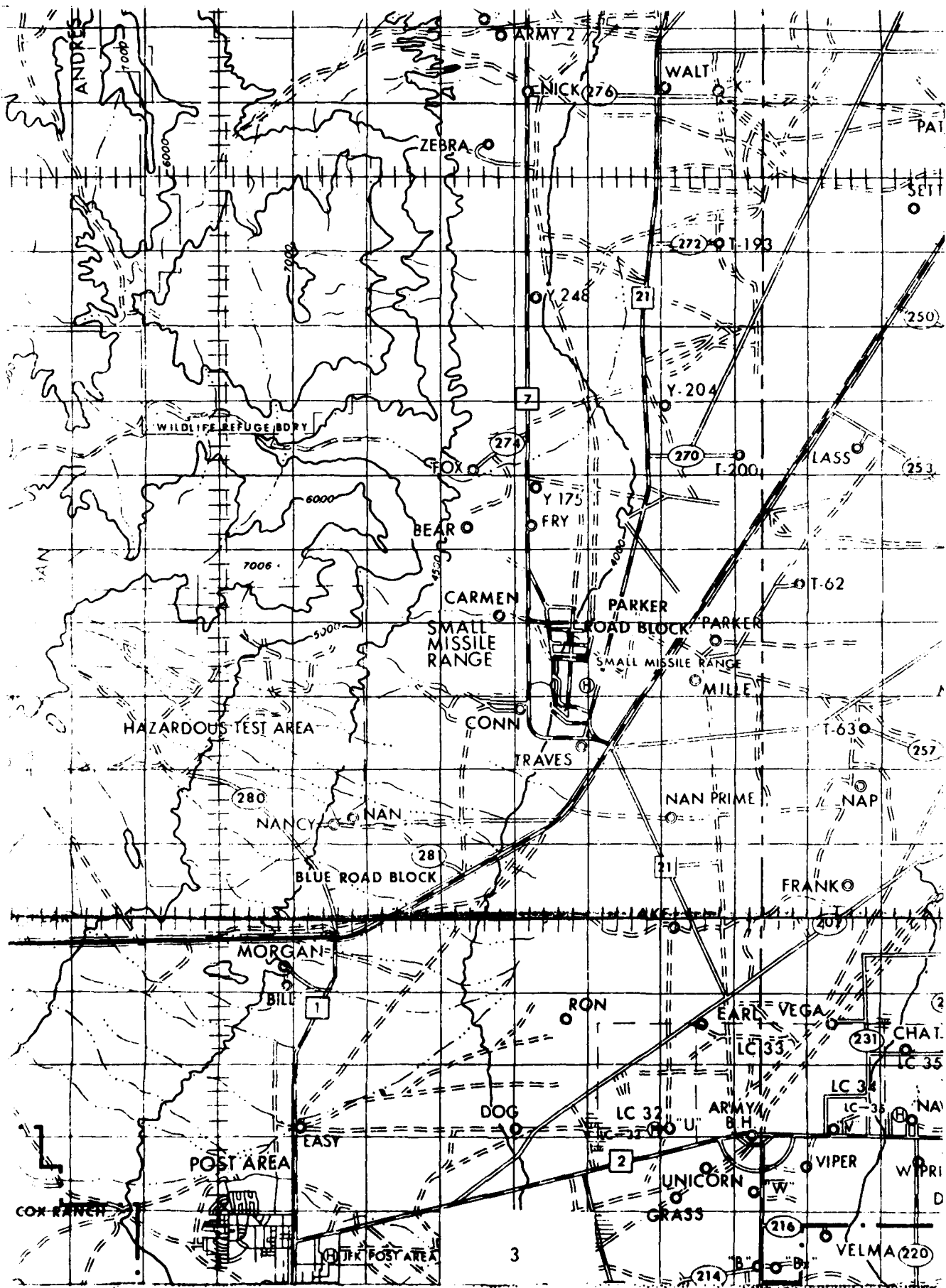


TABLE 1. Surface Observations taken at 0841 MST,
18 December 1979, at LC-33, 19701BT MLRS,
Missile Numbers 026, 025, Round Numbers
B-60, B-61.

ELEVATION	3977.30	FT/MSL
PRESSURE	890.4	MBS
TEMPERATURE	-1.2	°C
RELATIVE HUMIDITY	88	%
DEW POINT	-3.0	°C
DENSITY	1137	GM/M ³
WIND SPEED	CALM	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	2	C ₁

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	093	03	-30	077	03	-30		CALM
-20	093	03	-20	075	03	-20		CALM
-10	091	03	-10	075	02	-10		CALM
0.0	091	03	0.0	072	03	0.0	068	02
+10	090	02	+10	071	03	+10	070	02

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	MISG	02	-30	100	02
-20	MISG	02	-20	099	03
-10	MISG	01	-10	099	02
0.0	MISG	02	0.0	099	01
+10	MISG	02	+10	099	01

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	085	02	-30	053	02
-20	085	02	-20	053	02
-10	085	02	-10	053	01
0.0	085	02	0.0		CALM
+10	085	02	+10		CALM

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33

DATE 18 December 1979

TIME 0805 MST

TRACKER

COORDINATES (WSTM)

$$X = \underline{486.037,24}$$
$$Y = \underline{\underline{182,350.16}}$$

11- 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL yy OR FEET AGL .

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 18 December 1979 TIME 0840 MST

TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 Z= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL .

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM Nick DATE 18 December 1979 TIME 0830 MST

TRACKER COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL .

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 7

RELEASED FROM Nick DATE 18 December 1979 TIME 0840 MST

TRACKER COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL .

[illegible][illegible][illegible]

GEODLTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
3520020504
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
18 DEC. 79 0815 HRS MSL
ASCENSION NO. 534

TABLE 8

PRESSURE	GEOMETRIC	TEMPERATURE	ALL. HUM.
MILLIBARS	ALTITUDE	AIR TEMPERATURE	PERCENT
MSL FEET	DEGREES CENTIGRADE		
890.5	3989.0	-4.1	82.0
870.3	4590.4	1.8	89.0
855.6	5042.5	2.0	90.0
850.0	5217.5	4.2	94.0
833.4	5745.0	4.5	96.0
822.2	6108.0	6.1	92.0
811.4	6464.9	8.1	22.0
798.4	8651.6	7.4	19.0
708.0	10450.8	5.1	16.0
669.2	11652.7	3.2	19.0
596.0	14697.0	-4.0	32.0
570.0	15440.6	-6.7	25.0
536.8	17378.0	-11.1	26.0
500.0	19161.6	-13.5	17.0
453.4	21569.1	-14.0	25.0
436.6	22513.9	-20.1	39.0
418.6	23536.7	-22.1	29.0
400.0	24630.7	-24.0	31.0
349.2	27623.7	-33.8	40.0
325.8	29415.1	-36.0	43.0
314.6	30209.6	-38.7	48.0
300.0	31278.7	-41.0	41.0
287.8	32204.1	-43.1	
277.6	33006.1	-42.3	
250.0	35312.8	-47.3	
234.0	36742.3	-50.0	
211.4	38902.9	-54.7	
200.0	40064.2	-57.5	
170.0	43335.6	-62.5	
165.1	44006.2	-59.9	
150.0	45974.4	-61.4	
136.8	47863.4	-60.9	
126.2	49507.8	-62.5	
100.0	54221.7	-64.5	
79.4	58823.3	-64.5	
70.0	61337.4	-66.2	
60.8	64154.6	-66.7	
50.0	68094.3	-63.2	
42.6	71350.1	-62.3	
30.0	76645.2	-54.7	

STATION ALTITUDE 3989.00 FEET MSL
 18 JUL. 79 0815 HRS MST
 ASCENSION NO. 534

SIGNIFICANT LEVEL DATA
 3520020534
 WINDY SAMPLE

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 8 (CONT)

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
21.8 85416.5	-53.9	

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
3520020304
WHITE SALADS

TABLE 9

STATION ALTITUDE 3989.00 FEET MSL
18 DEC. 79
ASCL. STATION NO. 534

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND M/SEC	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	890.3	-4.1	82.0	1151.2	339.5	0.0	0.0	1.000276
4000.0	890.1	-4.0	81.8	1150.3	339.0	327.9	0.0	1.000276
4500.0	873.3	0.9	71.0	1107.8	345.0	327.9	1.0	1.000270
5000.0	857.0	2.5	60.8	1080.8	347.5	327.9	2.0	1.000263
5500.0	841.1	4.4	49.7	1053.8	349.0	327.9	3.0	1.000255
6000.0	825.3	5.0	36.2	1030.0	351.0	314.2	3.5	1.000246
6500.0	810.3	8.1	21.9	1002.7	353.7	301.3	4.0	1.000235
7000.0	795.3	7.9	21.0	984.9	353.5	288.4	4.5	1.000230
7500.0	780.9	7.3	20.1	967.5	353.3	277.4	5.0	1.000226
8000.0	765.0	7.0	19.2	950.3	353.1	267.4	5.8	1.000221
8500.0	752.0	7.4	18.3	933.5	352.9	262.9	6.9	1.000217
9000.0	738.8	7.0	17.6	916.0	352.3	262.3	8.4	1.000213
9500.0	725.2	6.3	17.1	903.2	351.5	265.0	10.3	1.000209
10000.0	711.8	5.7	16.5	885.0	350.8	267.4	12.4	1.000205
10500.0	698.7	5.0	16.1	874.4	350.0	268.5	15.1	1.000202
11000.0	685.3	4.2	17.4	860.6	349.1	264.1	17.4	1.000199
11500.0	673.0	3.4	18.6	847.0	348.2	260.2	19.0	1.000196
12000.0	660.4	2.4	20.5	834.3	346.9	258.0	19.3	1.000193
12500.0	648.0	1.2	22.6	822.1	345.0	256.2	19.1	1.000191
13000.0	635.8	0.0	24.8	810.1	344.2	258.2	18.2	1.000188
13500.0	623.3	-1.2	26.9	798.2	342.8	260.8	17.2	1.000186
14000.0	612.0	-2.4	29.0	785.6	341.4	263.7	15.6	1.000183
14500.0	600.3	-3.3	31.2	775.2	340.0	265.7	14.2	1.000180
15000.0	589.0	-4.7	30.2	763.0	338.6	263.9	13.1	1.000177
15500.0	577.7	-5.9	27.1	752.5	337.1	261.2	12.1	1.000173
16000.0	566.6	-7.1	25.1	741.0	335.0	257.3	11.3	1.000170
16500.0	555.0	-8.0	25.4	731.1	333.9	253.5	11.4	1.000167
17000.0	544.0	-10.0	25.8	720.9	332.1	250.1	12.1	1.000165
17500.0	534.2	-11.3	25.4	710.2	330.6	249.5	13.8	1.000162
18000.0	523.0	-11.9	22.9	697.9	329.3	249.3	15.6	1.000159
18500.0	513.3	-12.5	20.3	685.8	329.1	251.0	16.4	1.000155
19000.0	503.2	-13.1	17.6	673.9	328.3	252.7	17.4	1.000152
19500.0	493.2	-14.0	18.1	662.7	327.3	254.3	18.9	1.000150
20000.0	483.4	-14.9	19.8	651.9	326.1	257.3	21.5	1.000147
20500.0	473.7	-15.9	21.4	641.3	324.9	260.1	24.9	1.000145
21000.0	464.3	-16.9	23.1	630.9	323.8	262.0	27.8	1.000143
21500.0	455.0	-17.8	24.7	620.7	322.0	264.7	30.6	1.000140
22000.0	445.9	-18.9	31.2	610.8	321.3	263.9	31.9	1.000139
22500.0	436.8	-20.1	30.0	601.1	319.9	262.0	32.9	1.000137
23000.0	428.0	-21.1	34.2	591.2	318.7	260.9	32.5	1.000134

STATION ALTITUDE 3989.00 FEET MSL
 IN DEC. 79 0815 HRS MSL
 ASCENSION NO. 534

UPPER AIR DATA
 3520020534
 WHITE SARCS

GEODETIC COORDINATES
 32.46043 LAT DEG
 106.57033 LONG DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION DEGREES (TRUE) SPEED KNOTS	INDEX OF REFRACTION
23500.0	419.2	-22.0	29.4	581.4	617.4	259.2	1.000131
24000.0	410.0	-23.2	29.8	572.3	615.9	258.5	1.000129
24500.0	402.2	-24.5	30.8	563.3	614.4	257.7	1.000127
25000.0	393.8	-25.8	32.0	554.5	612.7	256.7	1.000125
25500.0	385.3	-27.3	33.5	545.0	611.0	255.7	1.000123
26000.0	377.4	-28.7	34.9	537.0	609.2	254.2	1.000121
26500.0	369.4	-30.1	36.3	529.3	607.4	253.0	1.000119
27000.0	361.7	-31.5	37.7	521.2	605.7	252.0	1.000117
27500.0	354.0	-32.9	39.1	513.3	603.9	250.8	1.000115
28000.0	346.3	-34.1	40.3	504.9	602.4	250.0	1.000113
28500.0	339.1	-35.0	41.3	495.9	601.3	247.7	1.000111
29000.0	331.7	-35.9	42.2	487.0	600.1	244.9	1.000109
29500.0	324.0	-36.8	43.5	478.4	598.9	243.0	1.000107
30000.0	317.3	-38.1	46.7	470.6	597.3	242.9	1.000106
30500.0	310.0	-39.3	46.1	462.0	595.0	243.4	1.000104
31000.0	303.7	-40.4	42.0	454.0	593.4	244.0	1.000102
31500.0	297.0	-41.5	31.2**	445.7	593.0	244.0	1.000100
32000.0	290.4	-42.0	9.0**	438.9	591.5	244.4	1.000098
32500.0	284.0	-42.8		429.5	591.3	244.1	1.000096
33000.0	277.7	-43.3		419.0	591.9	243.0	1.000093
33500.0	271.4	-43.4		411.5	590.5	243.0	1.000092
34000.0	265.4	-44.5		404.2	589.1	243.9	1.000090
34500.0	259.4	-45.5		397.0	587.7	243.0	1.000088
35000.0	253.0	-46.0		390.0	586.3	243.4	1.000087
35500.0	247.8	-47.8		383.1	584.9	243.5	1.000085
36000.0	242.2	-49.0		375.4	583.3	244.0	1.000084
36500.0	236.6	-50.2		369.0	581.7	240.0	1.000082
37000.0	231.2	-51.3		363.0	580.3	246.0	1.000081
37500.0	225.8	-52.2		356.0	579.1	247.5	1.000079
38000.0	220.6	-53.1		349.1	577.9	246.9	1.000078
38500.0	215.4	-54.0		342.4	576.8	246.2	1.000076
39000.0	210.4	-54.9		335.9	575.5	245.9	1.000075
39500.0	205.5	-56.1		329.8	573.9	245.5	1.000073
40000.0	200.6	-57.3		323.0	572.5	244.9	1.000072
40500.0	195.8	-58.2		317.3	571.2	244.2	1.000071
41000.0	191.1	-58.9		310.8	570.2	244.4	1.000069
41500.0	186.5	-59.7		304.4	569.2	244.7	1.000068
42000.0	182.0	-60.5		298.2	568.2	245.5	1.000066
42500.0	177.7	-61.2		292.1	567.1	246.5	1.000065
43000.0	173.4	-62.5		286.1	566.1	247.0	1.000064

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATIONS.

UPPER AIR DATA
3520000534
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
18 DEC. 79
ASCENSION NO. 534

GEODETIC COORDINATES
32.40043 LAT DEG
106.37533 LONG DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METERS	DIRECTION DEGREES (TRUE)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	169.2	-61.9		279.0	506.3	248.1	39.8	1.000062
44000.0	165.2	-59.9		269.8	508.9	248.6	33.9	1.000060
44500.0	161.2	-60.3		263.8	508.4	247.2	30.3	1.000059
45000.0	157.5	-60.7		257.9	507.9	245.4	26.6	1.000057
45500.0	153.5	-61.0		252.1	507.4	243.9	24.6	1.000056
46000.0	149.8	-61.4		246.5	506.9	242.3	22.8	1.000055
46500.0	146.2	-61.3		240.4	507.1	242.9	21.0	1.000054
47000.0	142.7	-61.1		234.4	507.3	244.4	21.0	1.000052
47500.0	139.2	-61.0		228.8	507.4	246.7	19.9	1.000051
48000.0	135.9	-61.0		223.1	507.4	250.9	18.1	1.000050
48500.0	132.6	-61.5		218.2	508.7	250.1	16.4	1.000049
49000.0	129.4	-62.0		213.5	508.1	252.0	15.3	1.000048
49500.0	126.2	-62.5		208.8	505.4	258.6	14.5	1.000046
50000.0	123.2	-62.7		203.9	505.1	270.0	14.2	1.000045
50500.0	120.2	-62.9		199.1	504.9	269.3	14.1	1.000044
51000.0	117.2	-63.1		194.5	504.8	269.8	12.4	1.000043
51500.0	114.4	-63.3		189.9	504.3	271.5	9.4	1.000042
52000.0	111.8	-63.6		185.5	504.0	275.6	6.8	1.000041
52500.0	108.9	-63.8		181.1	503.7	280.3	5.0	1.000040
53000.0	106.2	-64.0		176.9	503.4	307.5	3.5	1.000039
53500.0	103.6	-64.2		172.8	503.1	303.0	5.2	1.000038
54000.0	101.1	-64.4		168.7	502.9	299.8	7.1	1.000038
54500.0	98.6	-64.7		164.8	502.4	308.6	7.8	1.000037
55000.0	96.2	-65.2		161.1	501.8	348.6	8.1	1.000036
55500.0	93.8	-65.8		157.4	501.2	344.3	8.9	1.000035
56000.0	91.2	-66.0		153.9	500.7	30.3	9.8	1.000034
56500.0	89.2	-66.5		150.4	500.1	21.2	11.7	1.000033
57000.0	87.0	-66.9		147.0	500.5	24.3	9.8	1.000033
57500.0	84.9	-67.3		143.7	500.9	27.9	7.6	1.000032
58000.0	82.8	-67.8		140.4	500.3	21.2	4.8	1.000031
58500.0	80.7	-68.2		137.2	500.7	357.1	2.4	1.000031
59000.0	78.7	-68.3		133.9	500.4	279.8	2.9	1.000030
59500.0	76.8	-67.9		130.3	500.2	271.6	3.1	1.000029
60000.0	74.9	-67.4		126.8	500.0	267.0	3.4	1.000028
60500.0	73.0	-67.0		123.4	500.4	260.2	2.5	1.000027
61000.0	71.2	-66.5		120.0	500.0	300.1	2.0	1.000027
61500.0	69.4	-66.2		116.9	500.4	312.7	3.1	1.000026
62000.0	67.7	-66.3		114.1	500.3	306.3	5.0	1.000025
62500.0	66.0	-66.4		111.3	500.2	309.8	6.4	1.000025
63000.0	64.4	-66.5		108.6	500.0	316.9	6.9	1.000024

STATION ALTITUDE 3989.00 FEET MSL
10 DEC. 79
ASCESSION NO. 534

UPPER AIR DATA
3920020500
WHITE SAILS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND M/SEC	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.6	-66.6		105.9	339.9	322.9	7.5	1.000024
64000.0	61.3	-66.7		103.4	339.8	329.3	7.4	1.000023
64500.0	59.8	-66.4		100.7	330.2	333.8	7.4	1.000022
65000.0	58.3	-65.9		98.0	330.5	340.8	8.4	1.000022
65500.0	56.9	-65.5		95.4	331.4	343.5	10.3	1.000021
66000.0	55.3	-65.1		92.9	332.0	344.9	11.8	1.000021
66500.0	54.1	-64.6		90.4	332.8	342.8	11.2	1.000020
67000.0	52.8	-64.2		88.0	333.2	340.4	10.6	1.000020
67500.0	51.3	-63.7		85.7	333.8	334.9	8.9	1.000019
68000.0	50.2	-63.3		83.4	334.4	324.7	6.8	1.000019
68500.0	49.0	-63.1		81.3	334.9	311.0	5.2	1.000018
69000.0	47.8	-63.0		79.3	334.9	320.1	4.0	1.000018
69500.0	46.7	-62.8		77.3	335.0	330.1	3.3	1.000017
70000.0	45.3	-62.7		75.4	335.2	12.8	3.1	1.000017
70500.0	44.0	-62.5		73.5	335.9	28.1	3.1	1.000016
71000.0	43.4	-62.4		71.7	335.9	43.0	3.2	1.000016
71500.0	42.3	-62.2		69.8	335.9	32.3	2.9	1.000016
72000.0	41.3	-61.9		68.0	336.0	11.2	2.8	1.000015
72500.0	40.3	-61.1		66.2	337.3	332.0	2.9	1.000015
73000.0	39.4	-60.8		64.5	338.0	354.7	1.3	1.000014
73500.0	38.4	-60.1		62.8	340.7	134.8	.4	1.000014
74000.0	37.3	-59.5		61.2	342.4	104.9	1.9	1.000014
74500.0	36.0	-59.0		59.8	342.1	103.5	2.9	1.000013
75000.0	35.0	-58.3		58.0	340.8	102.8	4.0	1.000013
75500.0	34.9	-58.0		56.5	341.5	104.1	4.8	1.000013
76000.0	34.1	-57.3		55.0	342.2	100.0	5.4	1.000012
76500.0	33.3	-56.9		53.8	342.8	107.5	6.0	1.000012
77000.0	32.3	-56.4		52.2	343.5	100.8	6.5	1.000012
77500.0	31.7	-55.9		50.8	344.2	105.5	7.0	1.000011
78000.0	30.9	-55.4		49.3	344.9	104.3	7.4	1.000011
78500.0	30.2	-54.7		48.2	345.0	101.9	7.4	1.000011
79000.0	29.3	-54.6		47.0	345.9	159.4	7.3	1.000010
79500.0	28.3	-54.5		45.9	345.9	137.0	7.1	1.000010
80000.0	28.1	-54.4		44.8	346.0	154.4	6.7	1.000010
80500.0	27.3	-54.3		43.8	346.1	151.4	6.2	1.000010
81000.0	26.8	-54.4		42.8	346.2	151.2	6.4	1.000010
81500.0	26.2	-54.4		41.8	346.2	132.8	6.9	1.000009
82000.0	25.8	-54.3		40.8	346.3	133.8	7.4	1.000009
82500.0	25.0	-54.2		39.8	346.4	134.1	8.8	1.000009
83000.0	24.4	-54.2		38.9	346.5	134.1	10.5	1.000009

STATION ALTITUDE 3409.00 FEET MSL	UPPER AIR DATA	GEODETIC COORDINATES				
18 DEC. 79	3520020504	32.40143 LAT DEG				
ADULTATION NO. 534	WHITE SALINITY	106.57033 LONG DEG				
TABLE 9 (CONT)						
GEODETIC ALTITUDE	TEMPERATURE	REL. HUM. PERCENT	DENSITY	SPEED OF SOUND	WIND DATA	INDEX OF REFRACTION
MSL FEET	AIR DEGREE'S CENTIGRADE		GM/CM ³ METERS	FT/SEC	DIRECTION DEGREES (TN)	SPEED KNOTS
035000.0	23.4	-54.1	33.0	570.6		1.0000008
040000.0	23.3	-54.1	37.1	570.0		1.0000008
045000.0	22.8	-54.0	30.2	570.7		1.0000008
050000.0	22.2	-53.9	35.3	570.8		1.0000008

MANDATORY LEVELS
3520020534
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
18 DEC. 79 0815 HRS MST
ASCENSION, I.O. 534

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL		TEMPERATURE		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5214.	4.2	-4.3	327.9	2.5
800.0	6843.	8.0	-12.3	292.1	4.3
750.0	8586.	7.4	-15.2	262.8	7.2
700.0	10440.	5.1	-18.6	260.6	14.6
650.0	12412.	1.4	-17.3	250.5	19.2
600.0	14506.	-3.6	-18.1	265.7	14.2
550.0	16739.	-9.3	-25.4	251.7	11.7
500.0	19134.	-13.3	-33.1	253.3	17.9
450.0	21741.	-18.4	-32.4	264.5	31.3
400.0	24589.	-24.8	-37.0	257.4	33.1
350.0	27720.	-33.6	-42.0	251.9	43.2
300.0	31216.	-41.0	-49.0	245.0	60.0
250.0	35236.	-47.3		243.2	64.6
200.0	39967.	-57.5		244.8	77.8
175.0	42708.	-61.7		247.3	43.4
150.0	45850.	-61.4		242.5	23.0
125.0	49559.	-62.6		270.3	14.3
100.0	54054.	-64.5		290.7	7.8
80.0	58407.	-68.4		311.2	2.3
70.0	61127.	-66.2		310.0	2.4
60.0	64189.	-66.5		334.3	7.4
50.0	67839.	-63.2		323.1	6.6
40.0	72557.	-60.9		352.3	2.5
30.0	78311.	-54.7		161.4	7.4
25.0	82142.	-54.2		154.1	8.7